Sabancı Business Analytics for Professionals (Non-Thesis) Program
Spring 2022
PBAN 801 – Marketing Analytics

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Office Hours: By appointment

Type	Time	Days	Where
Class	19:00-22:00	Tue	Online
Class	13:30-16:30	Sat	Altunizade

Course Objective:

Marketing Analytics: Collect, organize, and analyze marketing data, solve marketing problems using the most appropriate technique. Within Marketing Analytics, we aim at designing a decision architecture to aid better decision making. This course is about generating marketing insights from empirical data in such areas as segmentation, targeting and positioning, satisfaction management, customer lifetime analysis, customer choice, and product and price decisions using conjoint analysis. This will be a hands-on course based on R language and Excel software.

Learning Outcomes:

Upon successful completion of the course, the student should be able to:
1.   Use key marketing metrics and the basics of marketing analytics
2.   Define the marketing analytics problem
3.   Choose the most appropriate analytics technique to solve the problem
4.   Discuss alternative solutions effectively
5.   Determine/set the best course of action
6.   Demonstrate understanding of data-driven decision modeling
7.   Be able to communicate the marketing analytics project with stakeholders

Course Material:

This course relies on several readings and participative learning. While we make references to textbooks depending on the context, students are not required to purchase any textbook.

List of Cases

Case 1	Date:	Week 1
	Case:	Colonial Broadcasting Company
	Type:	Paper
	Subject:	Regression
	Teamwork?:	No
	Grading:	Individual
Case 2	Date:	(TBA)
	Case:	Scholastic Travels – HBR case
	Type:	Paper
	Subject:	Customer Retention
	Teamwork?:	No
	Grading:	Individual

Optional Reading Material:
Lilien, G. L., Rangaswamy, A., & De Bruyn, A. (2013). *Principles of marketing engineering*. DecisionPro.
Grigsby, M. (2015). *Marketing analytics: A practical guide to real marketing science*. Kogan Page Publishers.
Chapman, C., & Feit, E. M. (2015). *R for marketing research and analytics* (p. 195e223). New York, NY: Springer.

Course Web:
All course related materials will be posted on SUCourse. Students are required to check course web often. I will also create and maintain a cloud folder for convenience.

Sabanci University uses a very powerful web-based tool called Turnitin. Turnitin is the worldwide standard in online plagiarism prevention. It allows instructors to compare student papers against a database composed of millions of articles. Every paper you submit will be scanned by Turnitin, and results will be reflected in your grades.

Instructional Design:
This course will be delivered through online (face-to-face if conditions permit) lectures. Students must bring their laptops, and make sure that required software (Excel, MEXL add-in, solver, RStudio) are installed and functional on their machines.

Grading:
10%   Deliverable 1 (Questionnaire & Construction)
10%   Deliverable 2 (Data Collection and preliminary analysis)
20%   Deliverable 3 (Analysis and Report)
20%   Presentation
30%   In-class exercises, attendance (10%) and mini assignments

Project (60%)

Deliverable 1: Questionnaire construction	: 15%
Deliverable 2: Presentation and Report	: 15%
Deliverable 3: Report	: 10%
Presentation	: 20%
Participation and case preparation	: 10%
In-class exercises & mini assignments & quizzes	: 30%

Peer Evaluation in Teamwork (optional)

Students can be asked to provide an evaluation of the members of their team in their Marketing Analytics projects. Each student will divide 100 points between the members of her team, including herself. This division should reflect that person's judgment of the contribution of the members of her team. The scores should not be merely functions of time spent by each member, but they should be measures of the "contribution;" their relative contribution to the idea generation, research, analysis, writing, oral presentation, report writing, etc. If the team was highly functional, and each member did what they committed themselves to, then the student can assign the same mark to each member of the team. If, on the other hand, some members of the team did not fulfill their commitments and did not contribute as much as the others, then points can be distributed unevenly.

The points submitted by all members of the team will be aggregated by the instructor. Every student will be given his/her aggregate peer evaluation, without disclosing the individual peer evaluations to the students.

In case there is no consensus among the team, for example, if three students divide the marks evenly and the fourth one divides them unevenly, then the instructor will use his/her judgment to assign peer evaluation marks--possibly after meeting with the members of the team.

In cases where there are conflicting marks, it is most likely that the instructor will meet with the team members and provide a mark based on an interview. For example, in a group of four, if Students A and B believe they did most of the work, and Students C and D believe otherwise, the team may be called in for an interview in order to be fair to everyone.

Past experience indicates that in most groups, points will be distributed evenly. There will be a few groups where peer evaluations will play a role in the marks. The primary goal of this exercise is to avoid giving undeserved credit to individuals who did not help their teams. However, it is possible to have upwards adjustments of marks in case of students who have done more than what the group expected of them.

The peer evaluation will have a direct impact on your project scores. To give a simple example, if the group mark is 25 out of 30, and if your peer evaluation indicates that your contribution was less than what was expected, then your Marketing Analytics project mark will be less than 25 out of 30. There are no simple rules for adjustment.

Requirements:

Each student is expected to contribute to discussions. To do well, students should learn from active participation in presentations and discussions. In evaluating the quality of participation is important. In particular, I will try to assess how your contributions enhance both the *content* and *process* of a discussion:
- Do your comments add to our understanding of the issues or is it frivolous / lacking of substance and serious thinking — an attempt to get "air time" that day? (i.e., you have only one thing to say and want to say it no matter how irrelevant it is to the on-going discussion).
- Are your comments timely and linked to the comments of others?
- Do your comments move the discussion along by providing a new perspective?
- Are your comments clear, or obscure?
- Do your comments reflect a concern for maintaining a constructive and comfortable classroom atmosphere?

If you are unable to attend a particular session please inform me as early as possible. Also prepare for "cold calls" during class meeting. If you attend, but are unprepared to participate in the day's discussions, notify me prior to the beginning of the class to avoid any embarrassment.

I will be taking role in each class and maintaining class-by-class participation marks and will provide feedback to you during the term.

Mini Assignments
Short Assignments: There will be short assignments during the semester. These assignments also include reading the cases before the class. The assignments will be announced weekly. If there no assignment announcement is made then you are responsible for reading the next case mentioned for that date in the syllabus.

Project (3 students per project)
Most of the material presented in this course is difficult to learn from a textbook. Therefore, a major element of the course is to complete a survey-based project, which comprises one deliverable and a final presentation.
Project Details:
The project for this course will be CONJOINT Analysis + STP. The conjoint analysis a technique that has been used in marketing for decades. The technique is very powerful,

and it is the only technique that can be used to validate consumers/users willingness to pay for a certain product or a service.

There are 3 stages in this analysis: designing the analysis, collecting data, conducting simulations to determine good product designs. There are two main ways of conducting a conjoint analysis: Full Rank (easier for analysis), and Choice Based (easier for the survey respondent). Using a powerful software such as JMP (by SAS) you can conduct any of the two conjoint analysis. However, for learning purposes, we will limit ourselves to EXCEL, and its basic functionalities.

There will be 3 project deliverables on the 3rd, 5th, and 7th weeks of the semester. Detailed project information will be provided during the semester. The projects will be carried out in groups (probably 3 or 4 member in each).

Grading Components are given under "Grading" section.

Academic Honesty:
Learning is enhanced through cooperation and as such you are encouraged to work in groups, ask for and give help freely in all appropriate settings. At the same time, as a matter of personal integrity, you should only represent your own work as yours. Any work that is submitted to be evaluated in this class should be an original piece of writing, presenting your ideas in your own words. Everything you borrow from books, articles, or web sites (including those in the syllabus) should be properly cited. Although you are encouraged to discuss your ideas with others (including your friends in the class), it is important that you do not share your writing (slides, MS Excel files, reports, etc.) with anyone. Using ideas, text and other intellectual property developed by someone else while claiming it is your original work is *plagiarism*. Copying from others or providing answers or information, written or oral, to others is *cheating*. Unauthorized help from another person or having someone else write one's paper or assignment is *collusion*. Cheating, plagiarism and collusion are serious offenses that could result in an F grade and disciplinary action. Please pay utmost attention to avoid such accusations.

Classroom policies and conduct
Sabancı Business Analytics for Professionals (Non-Thesis) Program values participatory learning. Establishing the necessary social order for a participatory learning environment requires that we all:
- Come prepared to make helpful comments and ask questions that facilitate your own understanding and that of your classmates. This requires that you complete the assigned readings for each session before class starts.
- Listen to the person who has the floor.
- Come to class on time.
- Laptop policy: Students are required to bring their laptops to class. Do not use your laptops or personal computers unless you are instructed to do so.

Course Schedule and Tentative List of Topics:

Week 1	Date:	
	Topic:	Introduction to Marketing Analytics
		Some marketing metrics
		Model-oriented vs. Data-oriented approaches
		Marketing models
		Response curves and smart sheets
		Various types of regression, challenges and interpretations.
	Requirements:	Case: Bass diffusion model – Model based approach, model calibration
		Case: Allegro case
		Case: Colonial broadcasting
Week 2	**Date:**	
	Topic:	Choice modeling, Logit
		RFM scoring – LIFT charts, ROC curves
		Introduction to new product design with Marketing Analytics
		Understanding attributes and levels
		Case: Colonial broadcasting (continued)
	Requirements:	Case: Bookbinders Book Club
		~~Case: Budget Allocation in medical advertising – regression & Smart sheets (based on response models)~~ (pending demand)
Week 3	**Date:**	
	Topic:	Introduction to **Con**sidering **Joint**ly
		Conjoint Analysis, continued
	Requirements:	Case: AirConditioner, OTC Design
Week 4	**Date:**	
	Topic:	Conjoint Analysis, continued
		Introduction to STP procedure
	Requirements:	Case: The Durr Case, Forte Hotel Case
Week 5	**Date:**	
	Topic:	The STP (Segmentation, Targeting, Positioning) process
		The art and science of segmentation
		Some housekeeping issues: outlier detection, multicollinearity
	Requirements:	
Week 6	**Date:**	
	Topic:	Targeting and Positioning
		Dimensionality reduction: Metric dimensional scaling, PCA
		Perceptual mapping
	Requirements:	Case: The Durr case (continued)
		Case: Infiniti G20
Week 7	**Date:**	
	Topic:	Basics of Time Series Analysis
		Presentations and Recaps
	Requirements:	
Week 8	**Date:**	
	Topic:	Exam week (Project report deliveries deadline)
	Requirements:	